Rate Design Philosophy

Introduction

MidAmerican has proposed to functionalize its delivery service costs into the following categories:

Subtransmission
Substations
Primary lines – three phase
Primary lines – single phase
Distribution transformers
Secondary lines – three phase
Secondary lines – single phase
Services
Meters
Lighting
Meter reading
Customer Service

This document outlines MidAmerican's philosophy in converting these functionalized costs into delivery service rates. Costs associated with Mid American's transmission facilities will be recovered through its FERC Open Access Transmission Tariff and are not considered here.

Derivation of Billing Units

MidAmerican's proposed delivery services rates are based on billing units from the 2000 test year. These units were gathered from the Company's books and are contained in Schedule 1.4.2.

Derivation of Loss Factors

MidAmerican does not propose to change its existing loss factors. A new loss factor is being added for residential delivery Rate R. This proposed addition is identical to the existing loss factors for other customers taking service at secondary voltage. The following loss factors (with the addition of Rate R) were presented in the Rebuttal Testimony of Gregory C. Schaefer in Docket Nos. 99-0122/0130 (Exhibit 11.0 in MidAmerican's initial Delivery Service Tariff proceeding) and are now reflected in Sheet No. 41 of MidAmerican's Ill. C. C. No. 4 [Tariff Schedule SEDS].

Rate	Capacity Loss Factor	Energy Loss Factor
SS	2.14%	1.73%
P	5.94%	4.41%
STD	8.22%	5.85%
STE	8.22%	5.85%
SSD	8.22%	5.85%
SSE	8.22%	5.85%
R	8.22%	5.85%
LS	8.22%	5.85%
LP	8.22%	5.85%

Determination of Class Peak Loads

Class peak loads were determined from load research data. Two of MidAmerican's delivery rates (Rates P and SS) require mandatory interval metering, so precise measurement of class peaks is possible for these two rates. While lighting load does not have interval metering, the peak load for the lighting class can be determined by dividing annual sales by the number of hours of darkness (an average of 12 hours per day, or 4380 hours per year).

Peak loads for MidAmerican's remaining rates are derived from load research. Class coincident and non-coincident peaks are summarized on WP-1.4, pages 1 to 2.

Identification of Customer Classes

Development of delivery service rates has caused MidAmerican to reevaluate its historic customer classes. Customers had historically been grouped with a primary focus on allocation of generation costs. These rate classes are not necessarily appropriate for prices based entirely on delivery costs.

Evaluation of MidAmerican's delivery system resulted in selection of the following classes:

- Substation Service (Rate SS), for customers taking service at 4 kV or above directly from a substation whose primary voltage is 69 kV and above.

- Primary Service (Rate P), for customers taking service at 4 kV and above directly from a MidAmerican distribution line, and who furnish all transformers, circuit breakers, and other equipment required for taking service.

- Secondary Three Phase Demand Service (Rate STD), for customers taking three phase service at voltages below 4 kV.

- Secondary Three Phase Energy Service (Rate STE), for customers taking three phase service at voltages below 4 kV.

- Secondary Single Phase Demand Service (Rate SSD), for customers taking single phase service at voltages below 4 kV.

- Secondary Single Phase Energy Service (Rate SSE), for customers taking single phase service at voltages below 4 kV.

- Residential Service (Rate R), for residential customers taking single phase service at voltages below 4 kV.

- Street Lighting Service (Rate LS), for lighting service supplied under contract for lighting public streets and thoroughfares and other public places.

- Private Lighting Service (Rate LP), for lighting service for entrances, driveways, and other private areas adjacent to existing 120/240 volt overhead distribution circuits.

Conversion of Billing Units on Existing Rates to Billing Units on Proposed Rates

In Schedule 1.4.2, billing units for MidAmerican's existing rates have been converted to billing units for its proposed delivery services rates.

Most existing Rate 53 customers would be eligible for Substation Service (Rate SS). Existing Rate 41 customers served at primary voltage would correspond to proposed Primary Service Rate P, while those served at secondary voltage would correspond to rate STD. The number of Rate 42 (non-residential demand) customers who would transfer to Rates STD and SSD was determined from company records. Likewise, the number of Rate 22 and Rate 45 (non-residential energy) customers who would transfer to Rates STE and SSE was determined from billing information. Essentially all residential customers currently served under Rates 9 and 10 would qualify for Rate R.

Preliminary Rate Design

Once costs were assigned into the functional areas listed above, the costs within each function were allocated into customer-based and usage-based categories. Rates for customer-based costs in each function were determined by dividing costs by the number of bills issued. Rates for usage-based costs in each function were determined by dividing costs by usage-related units. Since usage-based delivery costs are essentially driven by demand rather than energy, these usage-based costs were generally converted to demand charges. However, since many customers do not have demand meters, it was necessary to convert usage-based costs to energy charges in some cases.

Contributions to Non-Coincident Peak at Various Delivery Facilities

Having determined loss factors and non-coincident peaks for each existing customer group, and having assigned these groups to new delivery service rate categories, it was possible to develop each rate category's contribution to non-coincident peak. Loss-adjusted NCPs are developed in Schedule 1.4.1, pages 2 – 3.

Reactive Demand

MidAmerican does not propose to alter its charge for reactive demand in this proceeding. MidAmerican's current charge ($0.14 / kVAR / month) was approved by the Commission in Docket Nos. 99-0122/0130.

Revenue from reactive demand charges has been credited against the cost of distribution transformers, since both transformers and capacitors are charged to the same FERC plant account.

Allocation of Subtransmission Costs

This category consists of costs associated with MidAmerican's facilities at 69 kV and above. MidAmerican proposes to allocate these costs to each class based on loss-adjusted non-coincident peak. See Schedule 1.4.1, page 4. See WP-1.4 page 3 for the calculation of subtransmission costs to be allocated.

Substations

MidAmerican proposes to allocate these costs to each class based on loss-adjusted non-coincident peak. See Schedule 1.4.1, page 3.

Primary Lines

MidAmerican proposes to allocate these costs to each class based on loss-adjusted non-coincident peak. The cost of three phase primary lines would be charged to all but Rate SS customers, since these customers rely on the existence of Mid American's three phase primary system. Rate SS customers were excluded from primary lines allocation, as they take service directly from a substation whose primary voltage is higher than 69 kV.

The cost of single phase primary lines would be charged to single phase customers, since only single phase users benefit from these facilities. See Schedule 1.4.1, page 4. See WP-1.4 pages 4 to 5 for the calculation of the allocation between primary and secondary lines.

Distribution Transformers

MidAmerican proposes to allocate these costs to each customer served at secondary voltage based on current installation costs for various transformers. A linear regression of current installation costs for various transformers shows the following relationship:

Single Phase	$ 501 per transformer, plus $13.84 per kVA
Three Phase	$2615 per transformer, plus $8.72 per kVA

See WP-1.4, pages 6 to 7.

Distribution transformer costs were allocated to both customer-based and usage-based categories as follows:

$2615 per three phase customer (the "per transformer" cost of three phase transformers)
$501 per single phase non-residential customer (the "per transformer" cost of single phase transformers)
$8.72 / kW of non-residential non-coincident peak for three phase customers
$13.84 / kW of non-residential peak for non-residential single phase custoemrs
$353.40 per residential customer (roughly the cost of a 15 kVA transformer serving two residences)

These allocations are developed on Schedule 1.4.1, page 3.

Secondary lines

MidAmerican proposes to allocate the costs of three phase secondary lines to three phase customers served at secondary voltage (Rates STD and STE) and the costs of single phase secondary lines to single phase customers served at secondary voltage (Rates SSD, SSE, and R). See Schedule 1.4.1, page 6.

Services

MidAmerican proposes to allocate these costs to each customer in proportion to 2000 service installation costs for various types of services:

Single Phase Overhead Services	$429
Three Phase Overhead Services	$570

See Schedule 1.4.1, page 7 and work paper WP-1.4, pages 8 to 10.

Meters

MidAmerican has allocated metering costs to classes based on the installation cost of typical meters used for that class. They are:

Rate R: Single Phase Standard kWh Meters	$ 41
Rate SSE: Single Phase Standard kWh Meters	$ 72
Rate SSD: Single Phase Instrument Transformer Meters	$ 146
Rate STD and STE: Three Phase Secondary Voltage Non-Interval Meter	$ 602
Rates P: Three Phase Primary Voltage, kVARh, Interval Meter	$3,633
Rates SS: Three Phase Primary Voltage, kVARh, Interval Meter, Modem	$8,636

These costs reflect the total cost of installing the typical meter. A portion of this meter cost is to be unbundled under the terms of the Commission's October 4, 2000 Order in Docket No. 99-0013. The portion of the installation cost associated with unbundled meter service for the class is as follows:

Rate R: Single Phase Standard kWh Meters (residential customer meters will not be unbundled at this time)	$ 0
Rate SSE: Single Phase Standard kWh Meters	$ 72
Rate SSD: Single Phase Instrument Transformer Meters	$ 146
Rate STD and STE: Three Phase Secondary Voltage Non-Interval Meter	$ 172
Rates P: Three Phase Primary Voltage, kVARh, Interval Meter	$ 402
Rates SS: Three Phase Primary Voltage, kVARh, Interval Meter, Modem	$ 532

A number of non-standard installations for standard meters shown above were priced in proportion to the unbundled metering prices.

See WP-1.4, pages 11 to 43.

MidAmerican attempts to install secondary metering even for customers who receive service at primary voltage. Secondary metering has a significant cost advantage over primary metering. MidAmerican's proposed delivery services rates provide for meter adjustments for primary customers metered at secondary voltages, and vice versa. In cases where MidAmerican must provide primary metering at the customer's convenience, MidAmerican proposes to impose a charge for primary metering as follows:

Three Phase Primary Overhead Meter Installation Cost	$3554
Less Three Phase Secondary Meter Installation Cost	$1049
= Incremental Cost of Primary Metering	$2505
Rate of Return	x 0.0975
Return	= $ 244

Taxes = Cost x Weighted Cost of Equity x Tax Rate / (1 – Tax Rate) = (2505) x (0.0604) x (0.3967) / (1 – 0.3967)	= $ 99
Depreciation @ 3%	= $ 75
Total Annual Cost	= $ 418
Monthly Charge	= $ 35

Existing primary customers would be grandfathered from this charge.

Meter reading

MidAmerican proposes to allocate these costs on an equal basis for all meters.

Customer Service

MidAmerican proposes to allocate these costs on an equal basis per customer. See Schedule 1.4.1, page 8.

Summary Schedule

Rates are summarized by functional component on Schedule 1.4.4. A proof of revenue is found at Schedule 1.4.5.

Lighting

MidAmerican will continue to own and maintain private lighting served under Rate LP. Under Rate LS, MidAmerican will also to continue to offer both 1) ownership and maintenance of street lights, and 2) maintenance of government-owned street lights. Ownership costs have been allocated to each type of light based on current installation costs. (See WP-1.4, page 44) Maintenance has been allocated based on experienced maintenance periods. See Schedule 1.4.3.